

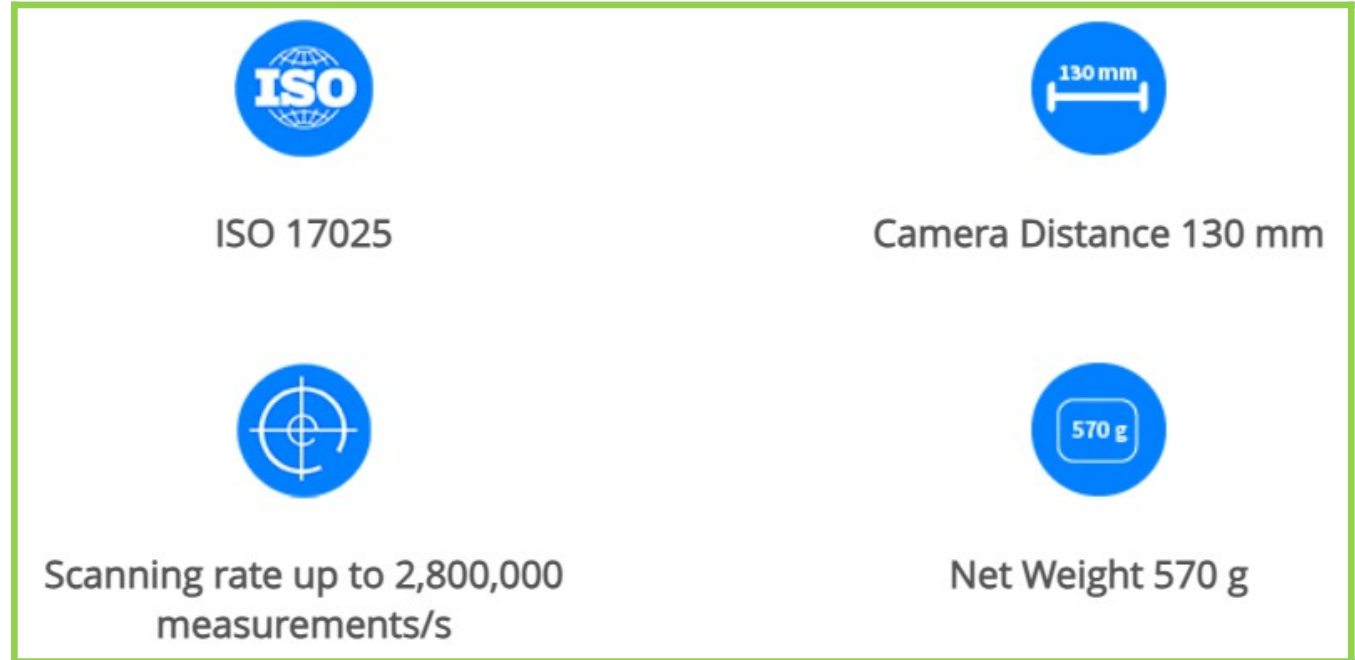
# Exhibit 4

<b>Infringement Claim Chart for U.S. Pat. No. US7336375B1 v. SCANTECH (“Defendant”)</b>
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Claim1	Evidence
<p>1. A system for acquiring an approximation of a surface geometry of a 3-dimensional object within a 3-dimensional object coordinate system in known relationship to the object, wherein the system comprises:</p>	<p>The SCANTECH SIMSCAN 3D Scanner is system for acquiring an approximation of a surface geometry of a 3-dimensional object within a 3-dimensional object coordinate system in known relationship to the object.</p> <p>For example, the SIMSCAN 3D Scanner is a 3D scanning device for measuring the three-dimensional shape of an object using projected light patterns and a camera system.</p> <div data-bbox="655 623 1879 1328" data-label="Image"> <p>The image shows a handheld, grey, ergonomic 3D scanner. A bright blue laser line projects from the device, forming a cone that illuminates a 3D model of a mechanical part with a series of horizontal ridges. The background is black, making the blue light and the grey object stand out. The scanner has a small logo at the bottom right.</p> </div> <p>Source: <a href="https://www.3d-scantech.com/product/simscan-3d-scanner/">https://www.3d-scantech.com/product/simscan-3d-scanner/</a></p>

SIMSCAN, a palm-sized portable 3D scanner, is specially designed for 3D scanning narrow and hard-to-reach areas. Featuring full-metal housing, it is incredibly sturdy and reliable. SIMSCAN has become a disruptive innovation among professional 3D scanners due to its compact size, simplicity and robust performance. Its cutting-edge design also wins itself German Red Dot Award and China Design Silver Award. SIMSCAN performs high-quality 3D scanning regardless of any restrictions from the working environment. It is ideal for 3D scanning both narrow spaces and large-scale parts. Users can accurately capture every detail of objects and construct 3D models in a very short amount of time with the help of this metrology-grade 3D measurement instrument.

Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>



Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>

## **Narrow-space Measuring Booster**

Compared with its competitors, SIMSCAN has a much shorter camera distance of 130 mm, which forms a steeper view angle to 3D scan narrow spaces. Therefore, SIMSCAN is more capable of capturing accurate and complete data in hard-to-reach areas like deep grooves and ensures users to capture full-field data.

Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>

With its built-in HD cameras and three scanning modes, it realizes high-precision scanning with an accuracy up to 0.020 mm. It can accurately capture the 3D data of objects with complex surfaces or in confined areas.

Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>

Type	SIMSCAN 42	SIMSCAN 30
Ultra-fast scanning	17 blue laser crosses	11 blue laser crosses
Scan mode	Hyperfine scanning	7 blue parallel laser lines
	Deep hole scanning	1 extra blue laser line

Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>



Source: <https://www.youtube.com/watch?v=C0G85knXoSQ>

	<div data-bbox="814 191 1705 545" data-label="Image"> <p><b>Robust Performance</b></p> <ul style="list-style-type: none"> <li>Ultra-fast scanning: 17 blue laser crosses</li> <li>Hyperfine scanning: 7 parallel blue laser lines</li> <li>Deep hole scanning: 1 blue laser line</li> </ul> </div> <p data-bbox="577 581 1522 617">Source: <a href="https://www.youtube.com/watch?v=C0G85knXoSQ">https://www.youtube.com/watch?v=C0G85knXoSQ</a></p>
<p data-bbox="199 660 506 727">a non-contact scanner, including:</p>	<p data-bbox="577 660 1690 690">The SCANTECH SIMSCAN 3D Scanner includes a non-contact scanner.</p> <p data-bbox="577 732 1955 911">For example, the SIMSCAN 3D Scanner includes scanner head that projects a series of light patterns (e.g. parallel stripes) onto the scan target. When light projects onto the object's surface, the patterns become distorted. The camera system captures these images and sends them for processing to a computer executing 3D scanning software.</p> <div data-bbox="837 951 1682 1341" data-label="Image"> <p><b>3D Measuring Booster</b></p> <ul style="list-style-type: none"> <li>130-mm camera distance</li> <li>Powerful in scanning hard-to-reach areas</li> </ul> </div>

Source: <https://www.youtube.com/watch?v=C0G85knXoSQ>



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Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>





Source: <https://www.3d-scantech.com/the-latest-version-of-the-handheld-3d-laser-scanner/>

	<p><u><b>Laser 3D scanners</b></u></p> <p>Laser 3D scanners use laser emitters to project lasers onto the object, while two cameras record the lasers reflected to determine positions in space. Most of these 3D scanners are handheld, and the measurement is done in a dynamic way, meaning that the 3D scanner and the object can move continuously during the measurement. This makes the 3D scanner more mobile and adaptable, as it can measure objects of any size or shape or in any location or environment. Being not sensitive to interference, laser 3D scanners can adapt to different measurement conditions. They are suitable for 3D scanning industrial parts such as wind turbines, automotive white-in-body, hydro-power equipment.</p> <p>Source: <a href="https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/">https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/</a></p> <p><u>A 3D portable scanner consists of a projector and cameras that are arranged at a fixed angle. This is essential for producing reliable data about the object being scanned. The system calibrates itself by observing a special plate in different positions, which allows it to determine the angles between the cameras, which may have changed due to temperature variation or shocks.</u></p> <p>Source: <a href="https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/">https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/</a></p>
a source of structured light;	<p>The non-contact scanner of the SCANTECH includes a source of structured light.</p> <p>For example, the non-contact scanner includes a light source (e.g. blue light LED) that projects a series of light patterns onto the scan target.</p>



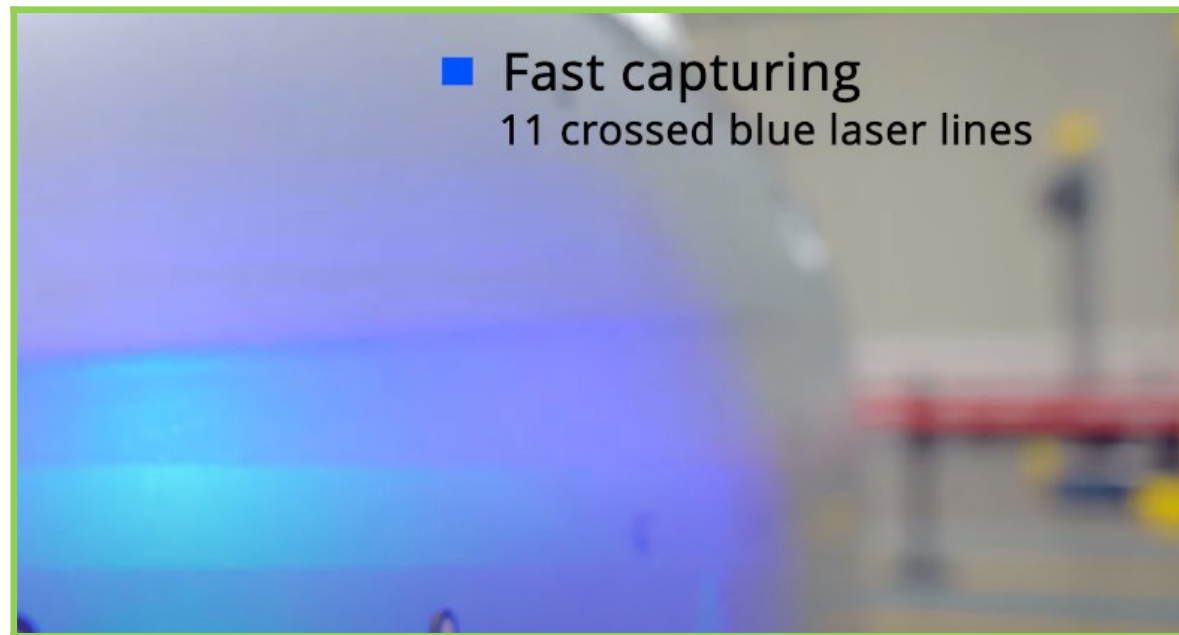
Source: <https://www.youtube.com/watch?v=C0G85knXoSQ>



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Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>



Source: [https://www.youtube.com/watch?v=\\_3AxXhu05ys](https://www.youtube.com/watch?v=_3AxXhu05ys)



### SIMSCAN Smart Handheld 3D Scanner

The only hand-sized 3D scanner in the market so far which is reddot design award 2021 winner. It can be used in various areas including inspection, prototyping and 3D printing.

- Capturing intricate details due to shorter distance of two camera
- Better 3D Scanning in narrow space
- Multiple scan modes

Source: [https://www.3d-scantech.com/product\\_category/handheld-3d-scanner/](https://www.3d-scantech.com/product_category/handheld-3d-scanner/)

#### Laser 3D scanners

Laser 3D scanners use laser emitters to project lasers onto the object, while two cameras record the lasers reflected to determine positions in space. Most of these 3D scanners are handheld, and the measurement is done in a dynamic way, meaning that the 3D scanner and the object can move continuously during the measurement. This makes the 3D scanner more mobile and adaptable, as it can measure objects of any size or shape or in any location or environment. Being not sensitive to interference, laser 3D scanners can adapt to different measurement conditions. They are suitable for 3D scanning industrial parts such as wind turbines, automotive white-in-body, hydro-power equipment.

Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/>

an imaging electro-

The non-contact scanner of the SCANTECH SIMSCAN 3D Scanner includes an imaging



optical sensor;

electro-optical sensor.

For example, the non-contact scanner includes a camera system. The camera system includes an electro-optical image sensor (e.g. CMOS or CCD image sensor depending on the model) that captures the patterns of the light projected onto the target object.




Source: [https://www.youtube.com/watch?v=\\_3AxXhu05ys](https://www.youtube.com/watch?v=_3AxXhu05ys)

Depending on the part's color, it is possible to change the 3D scanner's **exposition**. A high exposition will **boost the illumination power** of the projector by leveraging the sensitivity of the cameras. It is very similar to changing the ISO of a camera when taking photographs in dark environments.

But, as is the case with its 2D counterpart, cranking up the exposition has drawbacks. It makes dark areas easier to 3D scan, but shiny areas will blind the sensor and tamper with the ability to 3D scan.

We recommend using the **automatic exposition mode** first to capture most of the part, before manually adjusting the parameters to more effectively 3D scan the out-of-range areas (ones that are too dark or bright).

Source: <https://www.aniwaa.com/review/3d-scanners/scantech-simscan-review->

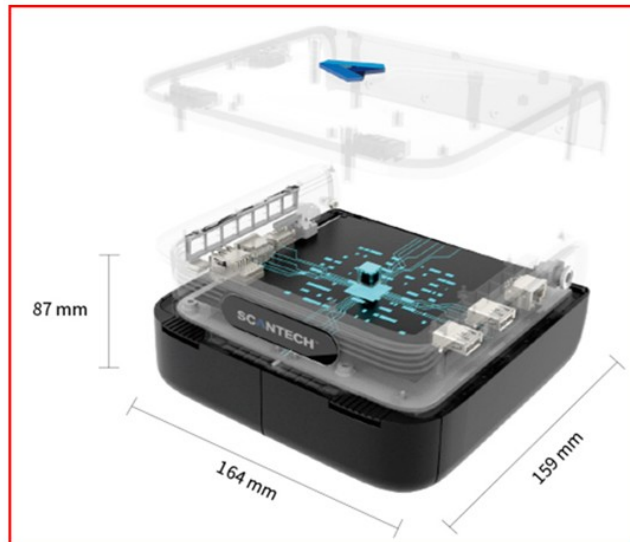
an image processor;	<p><a href="#">compact-versatile-powerful/</a></p> <p>The non-contact scanner of the SCANTECH SIMSCAN 3D Scanner includes an image processor.</p> <p>For example, the non-contact scanner includes an image processor for processing the images of light patterns captured by the camera system.</p>  <p>Source: <a href="https://www.youtube.com/watch?v=C0G85knXoSQ">https://www.youtube.com/watch?v=C0G85knXoSQ</a></p>
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SIMSCAN boasts a compact size and excellent portability. No matter in narrow spaces or under huge objects, SIMSCAN portable 3D scanner can conduct 3D measurements anywhere and anytime. When paired with wireless communication link [AirGO Power](#), it supports mobile 3D scanning and data viewing for truly flexible, reliable, and effective measurement experiences.

Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>

#### High-efficiency Processing of Massive Data

AirGo Pro has an onboard ultra-fast processor capable of processing massive data, despite its compact size (164 x 159 x 87 mm).



Source: <https://www.3d-scantech.com/airgo-pro-new-superpower-for-wireless-3d-scanning/>



	<p>A 3D portable scanner consists of a projector and cameras that are arranged at a fixed angle. This is essential for producing reliable data about the object being scanned. The system calibrates itself by observing a special plate in different positions, which allows it to determine the angles between the cameras, which may have changed due to temperature variation or shocks.</p> <p>Source: <a href="https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/">https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/</a></p>
a wireless data transmitter; and	<p>The non-contact scanner of the SCANTECH SIMSCAN 3D Scanner includes a wireless data transmitter.</p> <p>For example, the non-contact scanner paired with wireless communication link which includes a wireless transmitter (e.g. Bluetooth/wi-fi) for transmitting data associated with the captured images to a processor system.</p> <p>SIMSCAN boasts a compact size and excellent portability. No matter in narrow spaces or under huge objects, SIMSCAN portable 3D scanner can conduct 3D measurements anywhere and anytime. When paired with wireless communication link <a href="#">AirGO Power</a>, it supports mobile 3D scanning and data viewing for truly flexible, reliable, and effective measurement experiences.</p> <p>Source: <a href="https://www.3d-scantech.com/product/simscan-3d-scanner/">https://www.3d-scantech.com/product/simscan-3d-scanner/</a></p>

AirGO Pro saves the trouble of connecting 3D scanners to computers by cable, allowing true freedom in wireless 3D scanning. Its onboard processor can compute and store massive scanned data, which can be transferred to a computer via Wi-Fi 6.

With the help of projecting software and AR glasses, users can monitor the scanning progress in real time. With two exchangeable batteries, the AirGO realizes an uninterrupted power supply.

It is highly compatible with different types of handheld scanners including [KSCAN series](#), [AXE series](#), [TrackScan series](#) and [SIMSCAN series](#).

Source: <https://www.3d-scantech.com/airgo-pro-new-superpower-for-wireless-3d-scanning/>

## AirGO Pro: New Superpower for Wireless 3D Scanning

Mar 03, 2022

Hangzhou, China, March 2nd, 2022 — Scantech, a global 3D measurement company specialized in the development, manufacture, and sale of 3D scanners, releases the latest **wireless communication** link [AirGO Pro](#) designed for wireless 3D Scanning in harsh environments, especially when there is no power supply.

Source: <https://www.3d-scantech.com/airgo-pro-new-superpower-for-wireless-3d-scanning/>

## Wireless and Real-time Data Transfer

AirGO Pro supports real-time and wireless data transfer via Wi-Fi 6. It allows users to transfer scanned data to a computer wirelessly for viewing, post-processing, and storage. With AR glasses or projection software, an immersive data display will be achieved.

	<p>Source: <a href="https://www.3d-scantech.com/airgo-pro-new-superpower-for-wireless-3d-scanning/">https://www.3d-scantech.com/airgo-pro-new-superpower-for-wireless-3d-scanning/</a></p> <div data-bbox="802 339 1719 1092" data-label="Image"> </div> <p>Source: <a href="https://www.3d-scantech.com/product/airgo-smart-module/">https://www.3d-scantech.com/product/airgo-smart-module/</a></p>
<p>at least one position indicator;</p>	<p>The non-contact scanner of the SCANTECH SIMSCAN 3D Scanner includes at least one position indicator.</p> <p>For example, the non-contact scanner includes a position indicator for indicating the position at which a light pattern image was captured in relation to the target object.</p>



Source: <https://www.youtube.com/watch?v=C0G85knXoSQ>

A 3D portable scanner consists of a projector and cameras that are arranged at a fixed angle. This is essential for producing reliable data about the object being scanned. The system calibrates itself by observing a special plate in different positions, which allows it to determine the angles between the cameras, which may have changed due to temperature variation or shocks.

Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/>

a scanner tracking

The SCANTECH SIMSCAN 3D Scanner includes a scanner tracking subsystem

subsystem configured to determine essentially continuously the 3D position of the non-contact scanner as well as the 3D position of the structured light at the times when the imaging electro-optical sensor acquires an image;

configured to determine essentially continuously the 3D position of the non-contact scanner as well as the 3D position of the structured light at the times when the imaging electro-optical sensor acquires an image.

For example, a scanner tracking subsystem is used to track the position of the non-contact scanner as it is moved from an initial position to other positions to capture light pattern images from different locations around the target object.

#### Laser 3D scanners

Laser 3D scanners use laser emitters to project lasers onto the object, while two cameras record the lasers reflected to determine positions in space. Most of these 3D scanners are handheld, and the measurement is done in a dynamic way, meaning that the 3D scanner and the object can move continuously during the measurement. This makes the 3D scanner more mobile and adaptable, as it can measure objects of any size or shape or in any location or environment. Being not sensitive to interference, laser 3D scanners can adapt to different measurement conditions. They are suitable for 3D scanning industrial parts such as wind turbines, automotive white-in-body, hydro-power equipment.

Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/>

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Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/>



	<p>The <u>principles of operations</u> of the 3D scanner</p> <p>Reference points are used to create a stable and accurate point cloud. These are markers that are placed on or around the object, for example on a reference frame or holder, so that the system knows how to orient itself in space and how to position the measurement data in the coordinate system. Some systems, like the <u>TrackScan-Sharp optical 3D measurement system</u>, use an external tracking device, which makes the measurement possible without reference points and with high accuracy. Other systems use geometric or colour features of the object to combine individual scans.</p> <p>Source: <a href="https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/">https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/</a></p> <p><u>3D Data processing and analysis</u></p> <p>The digitization process, or 3D scanning, involves moving the scanning head along the whole geometry of the object so that the system sees all the surfaces that we want to analyse. Since there are many external factors that can affect the accuracy of a 3D scanner, such as temperature changes, shocks, external light sources, material properties and reflections, some information about the same surface can be recorded by multiple points. These are raw point clouds of all coordinates captured by the system, which are then polygonized, meaning that they are automatically optimized and averaged, resulting in a uniform and precise STL triangle mesh that can be used for further analysis, such as quality control or product development</p> <p>Source: <a href="https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/">https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/</a></p>
a wireless data receiver configured	The SCANTECH SIMSCAN 3D Scanner includes a wireless data receiver configured to receive data transmitted from the wireless data transmitter.

to receive data transmitted from the wireless data transmitter; and

For example, a wireless receiver (e.g. wifi/Bluetooth) is used for receiving data associated with the captured images to provide the data to a computer for further processing.

SIMSCAN boasts a compact size and excellent portability. No matter in narrow spaces or under huge objects, SIMSCAN portable 3D scanner can conduct 3D measurements anywhere and anytime. When paired with wireless communication link [AirGO Power](#), it supports mobile 3D scanning and data viewing for truly flexible, reliable, and effective measurement experiences.

Source: <https://www.3d-scantech.com/product/simscan-3d-scanner/>

AirGO Pro saves the trouble of connecting 3D scanners to computers by cable, allowing true freedom in wireless 3D scanning. Its onboard processor can compute and store massive scanned data, which can be transferred to a computer via Wi-Fi 6.

With the help of projecting software and AR glasses, users can monitor the scanning progress in real time. With two exchangeable batteries, the AirGO realizes an uninterruptible power supply.

It is highly compatible with different types of handheld scanners including [KSCAN series](#), [AXE series](#), [TrackScan series](#) and [SIMSCAN series](#).

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<p>a computer, in communication with the receiver, configured to correlate each received datum temporally with a corresponding 3D scanner position, to transform the data into coordinates relative to the object coordinate system according to the corresponding position of the scanner, and to accumulate the transformed coordinates as 3-dimensional surface</p>	<p>The SCANTECH SIMSCAN 3D Scanner includes a computer, in communication with the receiver, configured to correlate each received datum temporally with a corresponding 3D scanner position, to transform the data into coordinates relative to the object coordinate system according to the corresponding position of the scanner, and to accumulate the transformed coordinates as 3-dimensional surface points to model the object virtually.</p> <p>For example, the computer calculates the X-Y-Z coordinate points of the entire surface geometry of the target object from the light pattern images as the light pattern shifts from the initial position. Algorithms align every scan image automatically to create a highly accurate, complete 3D digital model of the object.</p> <div data-bbox="672 1088 1860 1419" style="border: 1px solid green; padding: 10px;"> <p><a href="#">SIMSCAN</a>, a compact handheld 3D scanner for industrial uses, is the only hand-sized portable 3D scanner on the market so far.</p> <p>Whether in narrow spaces or under massive objects, SIMSCAN performs high-quality 3D scanning without any restriction of the working environment. Metrology-grade measurement system helps capture every detail and construct the 3D model in a very short time.</p> </div>



points to model the object virtually.

Source: <https://www.3d-scantech.com/5-things-to-know-when-choosing-handheld-3d-scanners/>

### 3D Reconstruction for Art Design

This cost-effective 3D scanner can help to capture 3D data of existing products to serve as an inspiration for art design.

Source: <https://www.3d-scantech.com/the-latest-version-of-the-handheld-3d-laser-scanner/>

#### Laser 3D scanners

Laser 3D scanners use laser emitters to project lasers onto the object, while two cameras record the lasers reflected to determine positions in space. Most of these 3D scanners are handheld, and the measurement is done in a dynamic way, meaning that the 3D scanner and the object can move continuously during the measurement. This makes the 3D scanner more mobile and adaptable, as it can measure objects of any size or shape or in any location or environment. Being not sensitive to interference, laser 3D scanners can adapt to different measurement conditions. They are suitable for 3D scanning industrial parts such as wind turbines, automotive white-in-body, hydro-power equipment.

Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/>

A 3D portable scanner consists of a projector and cameras that are arranged at a fixed angle. This is essential for producing reliable data about the object being scanned. The system calibrates itself by observing a special plate in different positions, which allows it to determine the angles between the cameras, which may have changed due to temperature variation or shocks.

Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and->

[where-it-can-be-used-in-manufacturing-part-1/](https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/)

**The principles of operations of the 3D scanner**

Reference points are used to create a stable and accurate point cloud. These are markers that are placed on or around the object, for example on a reference frame or holder, so that the system knows how to orient itself in space and how to position the measurement data in the coordinate system.

Some systems, like the [TrackScan-Sharp optical 3D measurement system](#), use an external tracking device, which makes the measurement possible without reference points and with high accuracy. Other systems use geometric or colour features of the object to combine individual scans.

Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/>

**3D Data processing and analysis**

The digitization process, or 3D scanning, involves moving the scanning head along the whole geometry of the object so that the system sees all the surfaces that we want to analyse. Since there are many external factors that can affect the accuracy of a 3D scanner, such as temperature changes, shocks, external light sources, material properties and reflections, some information about the same surface can be recorded by multiple points.

These are raw point clouds of all coordinates captured by the system, which are then polygonized, meaning that they are automatically optimized and averaged, resulting in a uniform and precise STL triangle mesh that can be used for further analysis, such as quality control or product development

Source: <https://www.3d-scantech.com/3d-scanning-what-it-is-how-it-works-and-where-it-can-be-used-in-manufacturing-part-1/>

[where-it-can-be-used-in-manufacturing-part-1/](#)

## **SIMSCAN**

SIMSCAN, the only palm-sized portable 3D scanner in the market so far, is specially designed for 3D scanning narrow and hard-to-reach areas. Featuring a full-metal housing, it is incredibly sturdy and reliable. SIMSCAN has become a disruptive innovation among professional 3D scanners due to its compact size, simplicity, and robust performance.

SIMSCAN performs high-quality 3D scanning regardless of any restrictions from the working environment. It is ideal for 3D scanning both narrow spaces and large-scale parts. Users can accurately capture every detail of objects and construct 3D models in a very short amount of time with the help of this metrology-grade 3D measurement instrument.

Source: <https://www.3d-scantech.com/wp-content/uploads/2022/10/Scantech-3D-Scanner-Lineup.pdf>

## **Smooth 3D Experience**

SIMSCAN can 3D scan objects with a rate up to 2.80 million measurement/s thanks to its sophisticated algorithm and a camera frame rate higher than most of its competitors. It is designed to offer users a smooth and efficient 3D digitizing experience.

Source: <https://www.3d-scantech.com/wp-content/uploads/2022/08/SIMSCAN-Portable-Blue-Laser-3D-Scanner-Brochure-SCANTECH.pdf>